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HENRY M FEIEREISEN, LLC
350 FIFTH AVENUE
SUITE 4714
NEW YORK, NY 10118

EXAMINER

HUSON, MONICA ANNE

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/789,412
Filing Date: February 27, 2004
Appellant(s): KLOTZ, BERND

Henry Feiereisen
For Appellant

MAILED
AUG 21 2007
GROUP 1700

EXAMINER'S ANSWER

This is in response to the appeal brief filed 19 March 2007 appealing from the Office action mailed 20 October 2006.

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(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is substantially correct. Although applicant did not particularly point out the support for closing a cavity of a positive mold and removing the plastic article, support for both of these steps can be found in paragraph [0011].

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,776,407	Takeda	07-1998
6,328,920	Uchiyama et al.	12-2001
5,340,528	Machida et al.	08-1994

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(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 2, 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Takeda (U.S. Patent 5,776,407). Regarding Claim 1, Takeda shows that it is known to carry out a method of making a molded plastic article (Abstract), comprising the steps of closing a cavity of a positive mold by applying a clamping force (Column 8, lines 4-6); fully filling the cavity with plastic material, while maintaining a size of the cavity constant (Column 8, lines 21-22); adding plastic material so as to distend the positive mold in opposition to the clamping force until the cavity of the positive mold expands to reach a defined size for producing a defined article thickness (Column 8, lines 22-49); closing the positive mold until reaching a residual distending opening and molding the plastic material into a plastic article while applying the clamping force to thereby maintain the plastic material compressed (Column 9, lines 19-41); and removing the plastic article (Column 10, lines 20-30).

Regarding Claim 2, Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the adding step is controlled in dependence on a distance traveled by an advancing screw (Column 8, lines 23-25).

Regarding Claim 4, Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, including a method further comprising the steps of measuring an internal pressure in the positive mold, and applying the clamping force in dependence on a profile of the internal pressure (Column 8, lines 21-54).

Regarding Claim 5, Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, including a method further comprising the step of applying a higher clamping force upon the positive mold at a location closer to the sprue than at a location farther away from the sprue (Figures 12 and 13; Column 13, lines 1-3; e.g. compression is greater in the area of the molded article 106-107 than in the area to the left of elements 48-50).

Regarding Claim 6, Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, including a method wherein the molding step is carried out at constant clamping force (Column 9, lines 38-42).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takeda, in view of Uchiyama et al. (U.S. Patent 6,328,920). Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not show adding more resin depending on the distending motion of the positive mold. Uchiyama et al., hereafter "Uchiyama," show that it is known to carry out a method wherein the adding step is controlled in dependence on a distending motion of the positive mold (Abstract, i.e. the adding step is in dependence on the

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amount of movement of the positive mold). Uchiyama and Takeda are combinable because they are concerned with a similar technical field, namely, methods of injection compression molding. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use Uchiyama's control theory during Takeda's molding process in order to avoid the need for screw position sensors and monitoring.

Claims 12 and 13 are rejected under 35 U.S.C. '103(a) as being unpatentable over Takeda, in view of Machida et al. (U.S. Patent 5,340,528).

Regarding Claim 12, Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not specifically show forming a thick-walled, flat molded article. Machida et al., hereafter "Machida," show that it is known to carry out a method wherein the plastic article is a thick-walled, flat molded article (Column 1, lines 10-29). Machida and Takeda are combinable because they are concerned with a similar technical field, namely, methods of injection-compression molding. It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to form Machida's article using Takeda's molding technology in order to most efficiently produce the desired quantity of the article.

Regarding Claim 13, Takeda shows the process as claimed as discussed in the rejection of Claim 1 above, but he does not specifically show forming a disk. Machida shows that it is known to carry out a method wherein the plastic article is a disk (Column 1, lines 10-29). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to form Machida's disk using Takeda's molding technology in order to most efficiently produce the desired quantity of the article.

(10) Response to Argument

(Issue I)

It is noted that, in these Arguments, appellant has identified three relevant steps involved in the claimed process as step (a), step (b), and step (c). Although the claim does not label these steps with these letters, the examiner's response to Arguments will mimic appellant's arguments with respect to these newly-labeled steps (a), (b), and (c).

With respect to step (a), appellant contends that Takeda does not show filling a cavity while maintaining the size of the cavity constant. This is not persuasive because Takeda discloses closing the cavity (Column 8, lines 6-8), and then discloses that "in this condition" (i.e. the closed cavity), resin is injected into the cavity (Column 8, lines 16-23). From Takeda's disclosure, it is immediately envisaged that the cavity size is not changed, especially since

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Takeda notes that, *in the condition* of being closed, resin is injected therein. Although appellant suggests that Takeda clearly teaches away from a constant cavity size by citing several passages, including that at Column 9, lines 42-44, this is not persuasive because the cavity size variation described in these passages is related to a subsequent step of the molding process, not appellant's initial filling step of step (a).

With respect to step (b), appellant contends that Takeda does not show expanding the cavity wherein the volume of the cavity reaches a defined size to produce a defined article thickness. This is not persuasive because it is being interpreted that a "defined size" of the cavity and a "defined article thickness" do not particularly identify any exclusive size or thickness. In other words, a defined cavity size, for example, can be interpreted to include any cavity size which occurs at a point during the molding process. Thus, the volume of the cavity after its expansion is "defined" because the volume of the cavity can be calculated from the location of the cavity walls. A similar reasoning applies to the "defined article thickness". Therefore, it is maintained that Takeda shows adding plastic material so as to distend the positive mold until the cavity expands to reach a defined size for producing a defined article thickness because he clearly discloses adding plastic material so that the cavity expands to a new (i.e. defined) size that would correlate to a particular article thickness, for example at Column 8, lines 28-37, 57-67; Column 9, lines 2-8.

With respect to step (c), appellant contends that Takeda does not show closing the positive mold until reaching a residual distending opening. This is not persuasive because Takeda shows closing the molds until the reaching a residual distending opening (A3). Takeda shows closing the mold until reaching a residual distending opening, therefore meeting the claim, and then continues to close the mold. Appellants claim does not exclude further closing after the residual distending opening is achieved, as Takeda teaches. Although appellant contends that the claim requires molding the article in the presence of the residual distending opening, the examiner cannot find this requirement in the present claims.

With respect to claim 6, appellant contends that Takeda does not show molding at a constant clamping force. Although Takeda does not give any particular clamping force amounts, it is being interpreted that since there is some amount of clamping force during the molding cycle, Takeda meets this claim. The claim does not require a particular constant amount of clamping force; the claim only requires a constant clamping force, i.e. a clamping force constantly present during the molding cycle.

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(Issue II)

Appellant contends that Uchiyama and Takeda do not suggest the step of controlling the adding step in dependence on a distending motion of the positive mold. Uchiyama shows controlling the amount of material added to the mold cavity based on the opening (i.e. distending) of the mold, as noted in the rejection. Appellant argues that Uchiyama's mold opening followed by additional resin injection runs counter to Takeda's disclosure of resin injection which causes the mold opening. This is not persuasive because, independent of the process differences between Takeda and Uchiyama, it is believed that the concept of Uchiyama (controlling the amount of resin based on the desired mold opening) can reasonably be applied to Takeda's molding process because by using this concept, Takeda can effectively anticipate how much resin will be required to fill the volume of the desired distended mold cavity, and therefore can avoid wasting excess resin.

(Issue III)

Appellant contends that claims 12 and 13 are allowable for the same reasons as claim 1. These reasons are addressed above as non-persuasive under Issue I.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Monica A. Huson/

Monica A. Huson

Conferees:

/Jennifer Michener/

Quality Assurance Specialist, TC1700


CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER